AMENDMENTS

Please amend the claim set as follows:

1. (currently amended) A method for the treatment of hair, comprising

applying a composition onto hair, wherein the composition comprises at least one first active principle or first active complex, selected among or formed from compounds, which are, alone or in combination with further compounds, capable, after application to hair and after the carrying out of the treatment of hair described in the following, to provide a shape memory effect, and wherein the composition comprises at least one second active principle, selected among cationic agents;

previously, at the same time or subsequent to the application of the composition, bringing the hair into a desired shape (permanent memory shape) and

fixing the memory shape subsequently by inducing a chemical or physical change of the applied agents;

wherein, after a desired or undesired deformation of the memory shape, the initial memory shape can be recalled by means of a physical stimulation, wherein

the first active principle is a crosslinkable macromer, which forms after crosslinking a shape memory polymer, wherein the macromer comprises

a) crosslinkable segments, which are crosslinkable by means of a chemical reaction; and

b) thermoplastic segments, which are not chemically crosslinkable; wherein the memory shape is fixed by means of the chemical crosslinking of the macromer and the therewith associated forming of the shape memory polymer, and

wherein the shape memory polymer possesses at least one transition

temperature T_{trans}, and wherein the composition comprises the first active principle in an amount from 0.01 to 25 wt % and the second active principle in an amount of from 0.01 to 25 wt %.

2. (original) A method according to claim 1, characterized in that the composition comprises at least two active principles, which alone do not show or only show weak shape memory properties and which, after the combined application to hair in accordance with the method according to claim 1, provide hair with a synergistically increased shape memory effect.

3. (canceled)

4. (currently amended) A method for hair treatment, wherein a programmed hairdo (permanent shape) obtained in accordance with the method of claim 1, [[3,]] is warmed to a temperature above T_{trans},

wherein the hair is then brought into a second (temporary) shape and wherein the second shape is fixed by means of cooling to a temperature below T_{trans}.

5. (currently amended) A method according to claim 1, [[3,]] characterized in that the crosslinkable macromer is selected among compounds of the general formula

$$A1\text{-}(X)_n\text{-}A2$$

wherein A1 and A2 designate reactive, chemically crosslinkable groups and wherein $\text{--}(X)_n\text{--}$ designates a divalent, thermoplastic polymer or oligomer segment.

6. (previously introduced) A method according to claim 5, characterized in that the crosslinkable macromer is selected among polyesters, oligoesters, polyalkylene glycols, oligoalkylene glycols, polyalkylene carbonates and

oligoalkylene carbonates substituted with at least two acrylate groups or methacylate groups.

7. (previously introduced) A method according to claim 6, characterized in that the crosslinkable macromer is selected among poly(ε-caprolactone)-dimethacrylate, poly(DL-lactide)-methacrylate, poly(L-lactide-co-glycolide)-dimethacrylate, poly(ethyleneglycol) dimethacrylate, poly(propylenglycol) dimethacrylate, PEG-block-PPG-block-PEG-dimethacrylate, poly(ethylenadipate)-dimethacrylate, hexamethylencarbonate-dimethacrylate.

8. (previously introduced) A method in accordance with claim 1, characterized in that the composition comprises additionally one macromer having only one terminal or side chain chemically reactive group.

9. (previously introduced) A method according to claim 1, wherein

the first active principle is a shape memory polymer, which comprises

a) at least one hard segment which can be crosslinked by means of physical interactions, having a first transition temperature T'_{trans}, which lies above room temperature, and

b) at least one soft segment having a second transition temperature T_{trans} which lies below T'_{trans}, and

wherein the memory shape is fixed by means of a physical crosslinking of the shape memory polymers.

10. (previously introduced) A method according to claim 9, wherein the shaping of the hairs occurs under warming to a temperature of at least T'_{trans} and wherein the subsequent fixation of the hairdo occurs by means of cooling to a temperature below T'_{trans}.

11. (previously introduced) A method for hair treatment, wherein a programmed hairdo (permanent shape) obtained in accordance with a method according to claim 9, is warmed to a temperature between T'_{trans} and T_{trans}; wherein the hair is then brought into a second (temporary) shape and wherein the second shape is fixed by means of cooling to a temperature below T_{trans}.

12. (previously introduced) A method for reprogramming of a hairdo (permanent shape) obtained in accordance with the method according to claim 9 into a new permanent shape, wherein

the is hairdo is warmed to a temperature above T'_{trans},

followed by bringing the hair into a new shape, and

followed by fixing the new shape by means of cooling to a temperature below T'_{trans}.

13. (previously introduced) A method in accordance with claim 9, characterized in that the shape memory polymer possesses a degree of crystallinity of from 3 to 80% and wherein the ratio of the moduli of elasticity below and above T_{trans} is at least 20.

14. (previously introduced) A method according to claim 9, characterized in that the shape memory polymer is a copolyester urethane.

15. (previously introduced) A method according to claim 14, characterized in that the shape memory polymer is the reaction product of (a) two different macrodiols, selected among α,ω-dihydroxypolyesters, α,ω-dihydroxyoligoesters, α,ω-dihydroxypolylactones and α,ω-dihydrooxyoligolactones, and (b) at least one diisocyanate.

16. (currently amended) A method for the recovery of a programmed hairdo (permanent shape) obtained by the method according to claim 1, wherein the hairdo in a temporary shape ~~according to claim 4~~ or in the shape of a hairdo obtained by cold forming, is warmed to a temperature above T_{trans}.

17. (previously introduced) A method according to claim 1, characterized in that the cationic, second active principle is selected among surfactants having cationic groups or groups which can be rendered cationic, polymers having cationic groups or groups which may be rendered cationic, silicone compounds having cationic groups or groups which can be rendered cationic, cationic protein derivatives, cationic protein hydrolysates and betain.

18. (previously introduced) A method according to claim 17, characterized in that the cationic surfactant is selected among compounds of the general formula

$$N^{(+)}R^1R^2R^3R^4\ X^{(-)}$$

wherein R^1 to R^4, independently, designate aliphatic groups, aromatic groups, alkoxy groups, polyoxy alkylene groups, alkylamido groups, hydroxyalkyl groups, alkaryl groups or aryl groups having 1 to 22 carbons atoms, wherein the alkyl groups may be linear, branched or cyclic and wherein at least one of the groups possesses at least 8 carbon atoms and wherein X^- represents an anion.

19. (previously introduced) A method according to claim 17, characterized in that the cationic polymer is selected among methylvinylimidazoliumchloride/vinlypyrrolidon-- copolymers, quarternized vinylpyrrolidon/dimethylaminoethylmethacrylate-copolymers, dimethyldiallylammoniumchloride/sodiumacrylate/acrylamide-copolymers, vinylpyrrolidon/dimethylaminoethylmethacrylate/vinylcaprolactam-copolymers, vinylpyrrolidon/methacrylamidopropyltrimethylammoniumchloride-copolymers, cationic polysaccharide derivatives, chitosan, chitosan salts, chitosan derivatives.

20. (cancelled)

21. (withdrawn) A hair cosmetic composition, comprising in a suitable cosmetic medium an active complex, wherein the active complex comprises at least one first active principle, selected among compounds which are, alone or in combination with further compounds, capable to, after application to hair and after carrying out a method according to claim 1, to provide the hair with a shape memory effect and wherein the active complex comprises at least one second active principle, selected among cationic agents.

22. (withdrawn) A composition according to claim 21, characterized in that the first active principle is either

a macromer which can be crosslinked to a shape memory polymer, wherein the crosslinked shape memory polymer possesses at least one transition temperature T_{trans}, and wherein the macromer comprises

a) crosslinkable segments, which are crosslinkable by means of chemical bonds, and

b) thermoplastic segments, which are not chemically crosslinkable; and/or a shape memory polymer, which comprises

A) at least one hard segment which may be crosslinked by means of physical interactions, having a first transition temperature T'_{trans}, which lies above room temperature, and

B) at least one soft segment having a second transition temperature T_{trans}, which lies below T'_{trans}; and wherein the second active principle is selected among surfactants having cationic groups or groups which may be rendered cationic, polymers having cationic groups or groups which may be rendered cationic, silicone compounds having cationic groups

or groups which may be rendered cationic, cationic protein derivatives, cationic proteinhydrolysate derivatives and betain.

23. (withdrawn) A composition according to claim 22, characterized in that the cationic surfactant is selected among compounds of the general formula

$$N^{(+)}R^1R^2R^3R^4\ X^{(-)}$$

wherein R^1 to R^4, independently, designate aliphatic groups, aromatic groups, alkoxy groups, polyoxy alkylene groups, alkylamido groups, hydroxyalkyl groups, alkaryl groups or aryl groups having 1 to 22 carbons atoms, wherein the alkyl groups may be linear, branched or cyclic and wherein at least one of the groups possesses at least 8 carbon atoms and wherein X^- represents an anion.

24. (withdrawn) A composition according to claim 22, characterized in that the cationic polymer is selected among methylvinylimidazoliumchloride/vinlypyrrolidon-copolymers, quarternized vinylpyrrolidon/dimethylaminoethylmethacrylate-copolymers, dimethyldiallylammoniumchloride/sodiumacrylate/acrylamide-copolymers, vinylpyrrolidon/dimethylaminoethylmethacrylate/vinylcaprolactam-copolymers, inylpyrrolidon/methacrylamidopropyltrimethylammoniumchloride-copolymers, cationic polysaccharide derivatives, chitosan, chitosan salts, chitosan derivatives.

25. (withdrawn) A composition according to claim 22, characterized in that the shape memory polymer is contained in an amount of from 0.01 to 25 wt % and wherein the cationic agent is contained in an amount of from 0.01 to 25 wt %.

26. (withdrawn) A composition according to claim 21, characterized in that at least two active principles are contained, which show alone no or only weak shape memory properties but which, after combined application onto hair according to claim 1, provide a synergistically increased shape memory effect.

27. (withdrawn) A cosmetic preparation, comprising a composition according to claim 21, characterized in that the preparation is present in the form of a lotion, a spray lotion, a cream, a gel, a gelfoam and aerolsprays, a non-aerosolspray, and aerosolfoam, a non-aerosolfoam, a O/W- or W/O emulsion, a micro emulsion or a hair wax.

28. (withdrawn) A preparation according to claim 27, characterized in that additionally 0.01 to 25 wt % of at least one active principle are contained, selected among hair conditioning agents, hair fixative agents and hair coloring agents.

29. (currently amended) A method for the recovery of a programmed hairdo (permanent shape) obtained by the method according to claim 1, wherein the hairdo in a temporary shape ~~according to claim 11~~ or in the shape of a hairdo obtained by cold forming, is warmed to a temperature above T_{trans}.